

Abstract of the Disclosure

A method transmits an input stream of data symbols in a multiple-input, multiple-output wireless communications system. The input stream is demultiplexed into M substreams. Each of the M substreams is adaptively modulated and coded to a coded substream according to channel conditions. A first of the M coded substreams is space-time transmit diversity encoding into two space-time transmit diversity encoded substreams. There is one space-time transmit diversity encoded substream for each one of two transmit antennas. Each other coded substream is transmitted directly by a corresponding one of remaining $M-1$ transmit antenna.